



PCT/AU2004/001528

Patent Office
Canberra

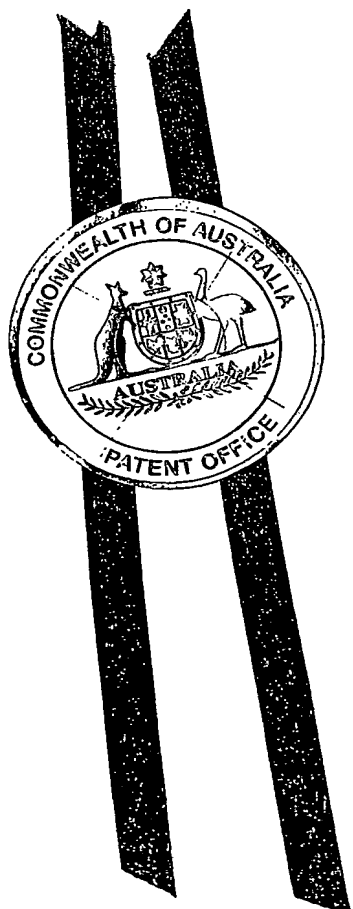
I, LEANNE MYNOTT, MANAGER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2003906239 for a patent by MARK BEHNECKE, CRAIG SYMONS and WARREN JAMES BAKOS as filed on 13 November 2003.

I further certify that the above application is now proceeding in the name of BBS DECK KING TOOL PTY LTD pursuant to the provisions of Section 113 of the Patents Act 1990.

WITNESS my hand this
Sixteenth day of November 2004

A handwritten signature in black ink, appearing to read 'L. Mynott'.

LEANNE MYNOTT
MANAGER EXAMINATION SUPPORT
AND SALES



BEST AVAILABLE COPY

AUSTRALIA
Patents Act 1990

PROVISIONAL SPECIFICATION

Applicant(s):

MARK BEHNECKE

CRAIG SYMONS

WARREN JAMES BAKOS

Invention Title:

DECKING TOOL

The invention is described in the following statement:

DECKING TOOL

Field of the Invention

This invention relates to a decking tool for assisting in
5 the building of a decking such as a verandah or like
structure in which spaced apart decking boards are
provided. However, it should be understood that the
reference to decking in this specification also includes
vertical walls formed from spaced apart boards, as well as
10 horizontal deckings such as verandahs.

Background of the Invention

As is well known, deckings generally comprise a building
structure formed from a number of support posts on which
15 bearers are laid. Joists are then attached to the bearers
and decking boards are nailed or otherwise fastened to the
joists in order to complete the decking. Generally, the
most time consuming part of building a decking is the
laying of the decking boards because this requires the
20 boards to be laid out, spaced and then nailed in place.

However, in some instances, decking boards are laid
directly on bearers without joists, particularly if space
is minimal. Thus, it should be understood that in this
25 specification, the word joist is used to refer to the
frame members upon which the decking boards are laid and
connected.

Typically, the decking is formed by fixing a first decking
30 board on the joists, which is positioned by use of a
string line or other datum. The decking board is fixed in
place by nails or screws. Usually, a number of boards
laid end to end in a row are fixed to form a first row of
the decking boards. A second row is then laid in position
35 and is spaced from the first row by a handheld spacer,
which can typically comprise a piece of wood which is sawn
off as an off-cut, and which has the desired thickness to

space the decking boards apart by the desired spacing which, in most applications, is a distance of about 5 mm. After the boards have been spaced by means of the spacer elements, the boards are then individually nailed in place.

The need to individually space the boards in this manner, and then to nail the boards in place is time consuming and takes up most of the time in the formation of a decking.

Summary of the Invention

The object of the present invention is to provide a decking tool which consists in the formation of a decking to reduce the time required to form the decking.

The invention may be said to reside in a decking tool comprising:

a tool body for location on a plurality of laid decking boards; and

a plurality of spacer elements extending from the body for location between adjacent decking boards of the laid decking boards, the spacer elements having a predetermined size to space the boards apart from one another by a distance corresponding to said predetermined size, and adjacent spacer elements being spaced from one another by a distance corresponding to the width of the decking boards.

Thus, according to the invention, a plurality of the boards can be laid in place and are then automatically spaced by the tool by locating the spacer elements between adjacent boards and pushing the boards hard up against the respective spacer elements.

Thus, since the plurality of boards are automatically spaced by the spacer elements, the boards can be secured in place much quicker than according to conventional

techniques, thereby reducing the time taken to form the decking.

5 Preferably the tool body has a front edge and an abutment member spaced from the front edge for abutting the joist to thereby locate the front edge over the decking boards and the joist to form a guide for the location of fasteners to secure the decking boards to the joist.

10 Since the preferred embodiment provides a guide for the location of the fasteners, the fasteners can be secured through the boards and into the joists in a straight line much quicker than in the past, and therefore the time taken to form the decking is further reduced.

15 Preferably the abutment member comprises a leading edge of at least one of the spacer elements.

20 Most preferably the abutment member comprises a leading edge of a plurality of the spacer elements.

25 In other embodiments of the invention, the leading edge of all of the spacer elements are in alignment and spaced from the front edge of the tool body by the second predetermined distance so that the leading edge of all of the spacer elements forms the abutment member.

30 Preferably the tool includes a removal spacer plate which is selectively connected to the tool body so as to form a front edge of the tool body which is spaced from the abutment member by a first distance when the removable plate is attached to the tool body, and the tool body having a front edge which is spaced from the abutment member by a second distance when the removable plate is removed from the tool body.

35

Preferably the tool body comprises a substantially rectangular body, or U-shaped body in cross-section, having a generally flat lower surface from which the spacer elements project.

5

Preferably the tool body has an upper surface to which is connected a handle for facilitating movement and positioning of the decking tool.

10

Preferably the tool body has a longitudinal centre line and the handle is offset relative to the centre line so that two like decking tools can be stacked in back to back relationship to reduce the size of a package of two such tools for shipment from one place to another.

15

Preferably the spacer elements comprise plates having a first section adjacent the tool body which is of a predetermined size to thereby define the space between adjacent decking boards, the plate tapering to a free edge remote from the tool body, and the free edge being curved or flat in shape.

20

Preferably the spacer elements include end spacer elements which locate adjacent outer surfaces of outermost boards of the plurality of laid boards, the end spacer elements being of greater length in a direction away from the tool body than the remainder of spacer elements.

25

The invention also provides a method of laying a decking comprising the steps of:

30

laying a plurality of decking boards on joists;
positioning a decking tool of the type described above so that spacer elements of the decking tool locate between decking boards of the plurality of decking boards, and front edges of the spacer elements abut a joist to thereby space the decking boards apart by the predetermined distance, and also so a front edge of the

35

tool forms a guide for locating fasteners through the decking boards and into the joist to thereby secure the decking boards to the joist.

5 In the preferred embodiment of the invention the tool is used in the above-mentioned manner to nail the decking boards to a first of the joists, and then the tool is moved to a second of the joists to nail the boards to a second of the joists, and then is moved to a third of the
10 joists to nail the boards to a third of the joists, and so on until all of the plurality of boards are nailed to the joists.

Preferably a further plurality of boards are then laid,
15 and the tool is used in the same manner to secure those boards to the joists.

Brief Description of the Drawings

A preferred embodiment of the invention will be described,
20 by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a decking tool according to the preferred embodiment of the invention;
Figure 2 is a front view of the tool of Figure 1;
25 Figure 3 is a detailed view of part of the tool of Figure 2;
Figure 4 is an end view of the tool of Figure 1;
Figure 5 is an underneath view of the tool of Figure 1; and
30 Figure 6 is a view showing the manner in which a decking is laid using the tool of Figures 1 to 5.

Detailed Description of the Preferred Embodiment

With reference to Figure 1, a decking tool 10 is shown
35 which comprises a tool body 12. The tool body 12 is preferably rectangular in configuration and has a width W of about 90 mm, a thickness T of about 10 mm, and a length

L of about 650 mm. However, it should be understood that these dimensions are merely exemplary and the width, thickness and length of the tool could be other than that described above.

5

The tool body 10 may be formed as a slight U-shape in cross-section. This enables the thickness of the tool body to be reduced while maintaining structural integrity and strength.

10

The tool body 12 has an upper surface 14 and a lower surface 16. The surfaces 14 and 16 are generally flat and parallel with respect to one another. A handle 18 is connected to the surface 14 and is offset from longitudinal centre line C of the tool body 10 so that two identical tools can be stacked back to back with their handles 18 beside one another to minimise the amount of space occupied by two such tools when packaged together for shipment from one place to another. The location of the handle 18 on one side of the centre line C also ensures that there is sufficient room for a nail gun to be used with the tool, as will be described in more detail hereinafter, and that if a workman is holding the tool by the handle, the workman's hand is well away from the nail gun and there is clear space for the nail gun to move along the tool.

15

20

25

30

35

The tool body 10 has a front edge 20. The tool 10 may also include a removable plate 22 which can be connected to the front edge 20 by screws 24. In an alternative embodiment, the removable plate 22 can be connected to the tool body 10 by clamps (not shown) or any other suitable releasable fastener. The purpose of the removable plate 22 will be described hereinafter.

The lower surface 16 of the tool body 12 has a plurality of spacer elements 25 extending away from the surface 16. The spacer elements 25 are best shown in Figures 2 to 5.

5 As is best shown in Figure 2, seven spacer elements 25 are provided and which are spaced apart by a predetermined, preferably equal distance, which matches the width of a decking board with which the tool is to be used. For example, if the tool is to be used with decking boards of
10 width 90 mm, the spacer elements 25 are spaced apart by a distance corresponding to that distance, plus a slight extra distance to compensate for any expansion or slight bowing of the decking boards which may occur when the boards are subjected to weather prior to use to form a
15 decking. Typically, if the tool is to be used with decking boards of width 90 mm, the spacer elements 25 are spaced apart by a distance D of 90.5 mm. Whilst in most applications the decking boards will all have the same thickness, and therefore the spacer elements 25 will be
20 spaced apart by the same distance, it is not inconceivable that deckings may be formed from boards which have regular patterns of different thicknesses and therefore, in some embodiments, the spacer elements 25 may be spaced apart by different distances depending on the thickness of boards
25 and the pattern which is to be produced.

As is best shown in Figure 3, the spacer elements 25 have a first section 25a adjacent the surface 16 which defines the thickness of the spacer elements 25, and therefore the
30 spacing between adjacent decking boards which are laid using the tool of the preferred embodiment. The spacer elements 25 then have a second portion 25b which tapers towards a flattened or generally curved end 25c which is remote from the surface 16. The spacer elements 25 are
35 preferably configured in this shape to prevent injury if the spacer elements come into contact with a person because they are generally blunt, and also to prevent the

likelihood of scratching of a newly laid decking by the spacer elements 25 during use of the tool 10.

5 The spacer elements 25 are preferably in the form of plates, as is best shown in the side view of Figure 4, which are generally rectangular in side view as shown in Figure 4. Preferably the spacer elements 25 are formed integral with the body 10 so as to have maximum strength. However, in other embodiments, the spacer elements 25
10 could be fixed to the body 10 by any suitable method.

In other embodiments, the spacer elements could be in the form of pins or the like which may make it easier for the pins to locate between decking boards when the tool is
15 used. The pins will preferably have a flattened or gently curved free end similar to that shown in Figure 3.

If the tool 10 is to be used with decking boards which have a different width such as 70 mm, then the elements 25
20 are spaced apart by a distance D of 70.5 mm. Thus, two different tools can be provided for use with the two different board widths. However, in a still further embodiment, the tool body 10 can be provided with releasable spacer elements 25 and locator points for
25 locating the spacer elements 25 at separation distances of 90.5 mm or 70.5 mm so that a single tool can be modified for use with decking boards of thickness 90 mm or 70 mm as the case may be.

30 As is apparent from Figures 2 and 4, the end spacer elements which are marked 25' in Figures 2 and 4 are of greater length in a distance away from the surface 16 than the intermediate spacer elements 25. The reason for this is that the greater length of the spacer elements 25
35 provides a more secure location against a joist, and also against end decking boards during use of the tool, to

reduce the likelihood of twisting or pivotal movement of the tool relative to the boards when the tool is in use.

5 In the preferred embodiment of the invention, the length of the end teeth 25' are approximately 30 mm and the length of the other teeth are about 15 mm. However, once again, these dimensions could be varied depending on the application to which the tool is to be put.

10 As is apparent from a consideration of Figures 4 and 5, the spacer elements 25 each have a leading edge 35 which are aligned along line B in Figure 5. The aligned edges 35 are spaced a predetermined distance D_1 from front edge 20 of the tool body 12, which relates to the thickness of
15 a joist on which the decking boards are to be laid. For example, if the joists have a thickness of 35 mm, the spacer elements 25 are positioned such that the edges 35 are the distance D_1 of 10 mm from the front edge 20 of the tool body 12. In this instance, the removable plate 22 is
20 removed from the tool body so the front edge 20 forms a guide for a nail gun to nail the boards to the joists, as will be described hereinafter.

25 Thus, when the tool is in use, at least some of the spacer elements 25 contact the joist, and thereby locate the front edge 20 of the tool body over the joist to form the guide for the nail gun. In the preferred embodiment of the invention, only the longer spacer elements 25' extend down beneath the decking boards and abut the side of the
30 joist. However, in other embodiments, additional ones, or all of the spacer elements 25, could contact the side of the joist to position the tool and therefore the front edge 20 at the desired place over the joist.

35 Thus, the front edge 20 is located slightly towards the side of the joist from the midpoint of the joist by a distance of about 5 mm. This distance accommodates the

thickness of the nail gun, so that if the nail gun is placed adjacent the edge 22, the nails are located at the midpoint of the joist so that when the nails are punched into the boards and the joist, the nails form a straight line at the midpoint of the joist.

If the tool is to be used with a joist of 45 mm thickness, the removable plate 22 is secured in position. The plate 22 has a thickness of about 5 mm and therefore the edge of the tool body which, in this arrangement, is formed by the edge 22' of the plate 22 is spaced a distance of 15 mm from the leading edges 35 of the spacer elements 25. Thus, again this provides spacing for the nail gun so a straight line of nails is formed at the midpoint of the joist.

In a still further embodiment, if the tool is to be used by a handyman who intends to form the deck by using a hammer and nails rather than a nail gun, a removable plate 20 having a thickness of 12.5 mm can be provided. This will locate the edge 22 at the midpoint of a 35 mm joist so that the nails can be located against the edge 22 and hammered through the boards and into the joist to thereby form a straight line of nails at the centre line of the joist.

In still further embodiments, the tool can be supplied with a number of different sized removable plates so that an appropriate removable plate can be attached to suit the size of the joist, and also whether the fasteners are being attached by way of a nail gun, hammer or other suitable tool.

Whilst the tool of the preferred embodiment has seven spacer elements 25 defining six spaces for receiving decking boards, the number of elements, and therefore the number of decking boards which can be accommodated by the

tool is arbitrary and could be more or less than six. For example, in some applications, the tool could accommodate two or three boards and in others, 10 to 15 or even more boards.

5

Figure 6 is a diagram illustrating how the tool of the preferred embodiment is used to form a decking.

10 The decking is formed by laying decking boards 100 on joists 200. The joists 200 are supported by bearers (not shown) which in turn are supported along posts (not shown). The decking boards 100 are cut to length as usual, so that rows of decking boards are formed, and with the joins between decking boards of the same row being
15 staggered with respect to the joins of decking boards in an adjacent row. The first decking board 100' is aligned using a string line or other datum and is nailed in place in the conventional way so as to provide a starting reference point. The remaining decking boards 100 are
20 then laid out as shown in Figure 6, and the tool 10 is positioned over the decking boards. The end spacer elements 25 abut outer edges of the outermost decking boards 100, and the intermediate spacer elements 25 locate between the adjacent decking boards 100. The decking
25 boards 100 are then pushed tightly together so that they sandwich the spacer elements therebetween to properly set the spacing between the boards 100 in accordance with the size or, in other words, the thickness of the spacer elements 25. Depending on the condition of the boards
30 100, the tool 10 may need to be slightly forced into place by a hammer or the like to take out bows in the boards 100 and ensure that the boards properly locate between the spacer elements 25. The tool 10 is then positioned so that the leading edges 35 of the spacer elements 25' abut
35 side edge 200a of the respective joists 200. This then locates the edge 20 of the tool 10 over the joist 200 just short of the midpoint of the joist 200. Obviously, if the

joist 200 is of 45 mm thickness, the removable plate 22 is used. Thus, a straight edge defined by the front edge 20 or 22' is therefore formed along the joist 200 for guiding a nail gun so that a row of nails can be easily punched through the boards 100 to secure the boards 100 to the joist 200. This is simply done by running the nail gun along the edge 20 and activating the nail as the nail gun passes over the appropriate place of each of the decking boards 100. Thus, the decking boards 100 are all automatically spaced apart by the required distance, and a guide is used to form a guideline so that a straight line of nails can be located through the boards and into the joist to secure the decking boards 100 in place.

The tool 10 is then removed and replaced adjacent the next joist 200', as shown by reference 10' in Figure 6, and the same sequences of operations occurs. Thus, once again, the boards at the joist 200' are properly spaced and a guide is formed for the nail gun to attach the boards to the joist 200'. This continues along each of the joists 200 until all of the boards are secured in place. A new set of boards 100 (not shown) are then laid on the joists 200 and the same operation is repeated to secure those boards to the joists 200. This continues until the decking has been finished.

Because the tool automatically spaces the boards, thereby avoiding the need for individual spacing by hand, and also forms a datum guide for the nail gun, a considerable amount of time is saved in securing the decking boards 100 to the joists 200. Thus, the time taken to complete the decking is greatly reduced.

When the tool 10 is in place, the tool can be released, thereby enabling the workman to have two free hands for operating the nail gun or a hammer and nail in order to attach the decking boards 100 to the joists 200.

In other embodiments of the invention, rather than provide a relatively small handle 18, or as well as the small handle 18, a large extension handle can be used so that
5 the tool 10 can be manipulated into place from a standing position, rather than having to kneel or bend over.

In the claims which follow and in the preceding description of the invention, except where the context
10 requires otherwise due to express language or necessary implication, the word "comprise", or variations such as "comprises" or "comprising", is used in an inclusive sense, ie. to specify the presence of the stated features but not to preclude the presence or addition of further
15 features in various embodiments of the invention.

Since modifications within the spirit and scope of the invention may readily be effected by persons skilled within the art, it is to be understood that this invention
20 is not limited to the particular embodiment described by way of example hereinabove.

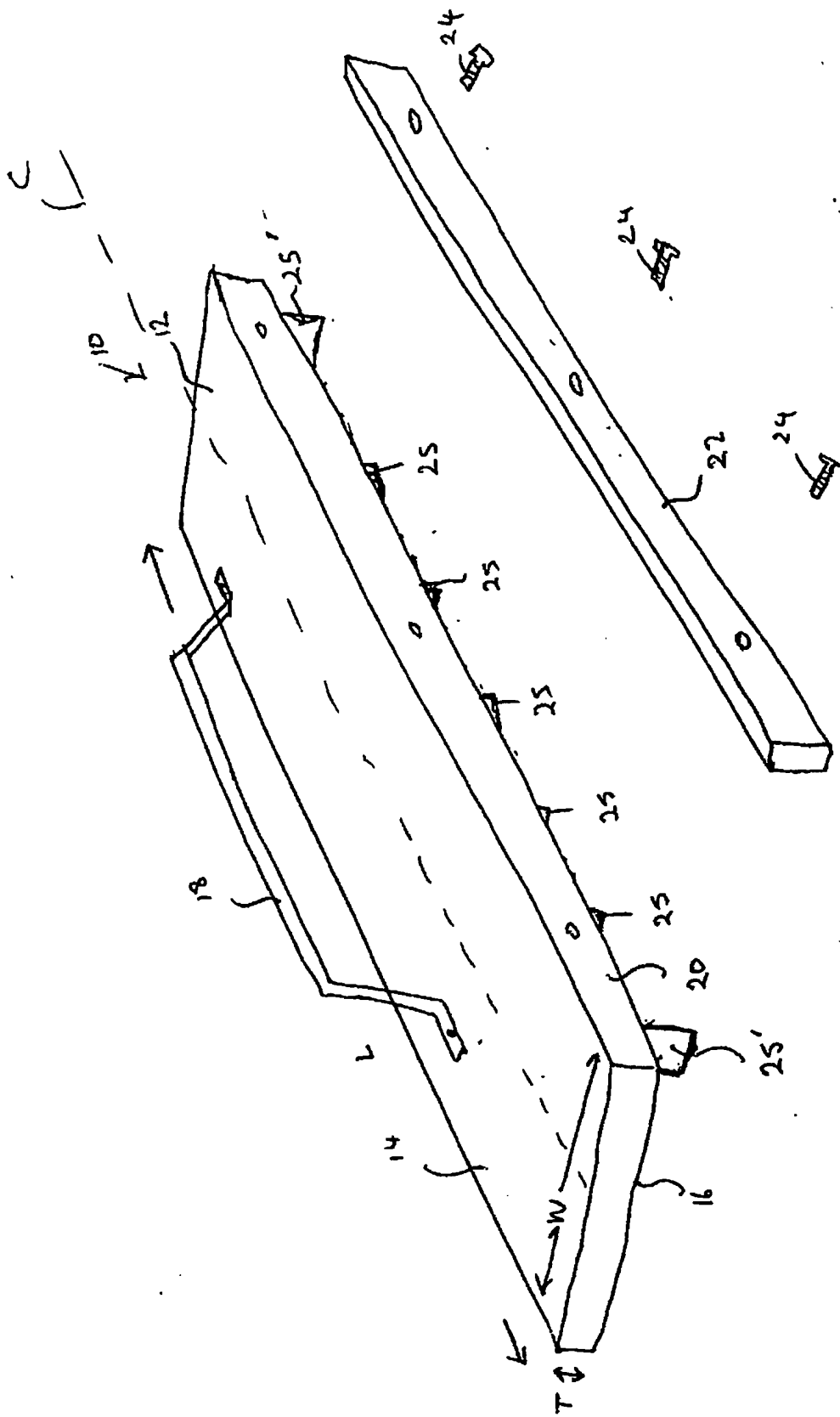
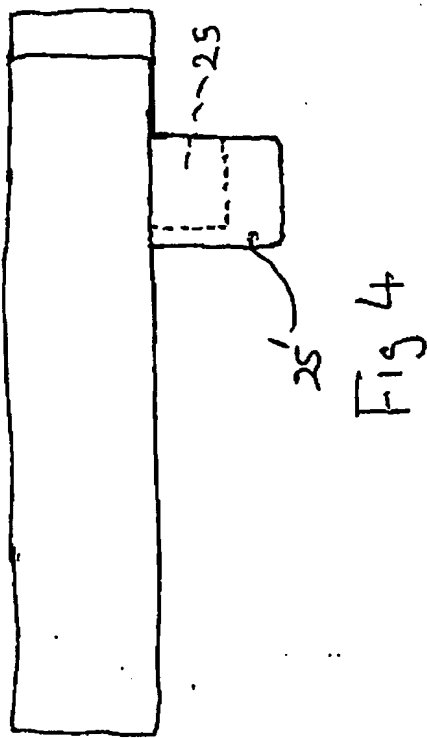
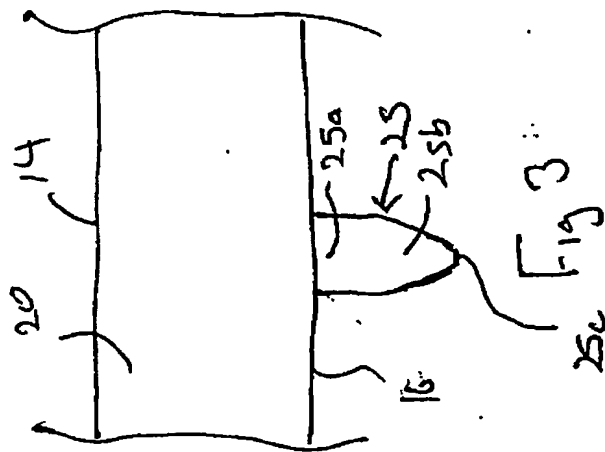
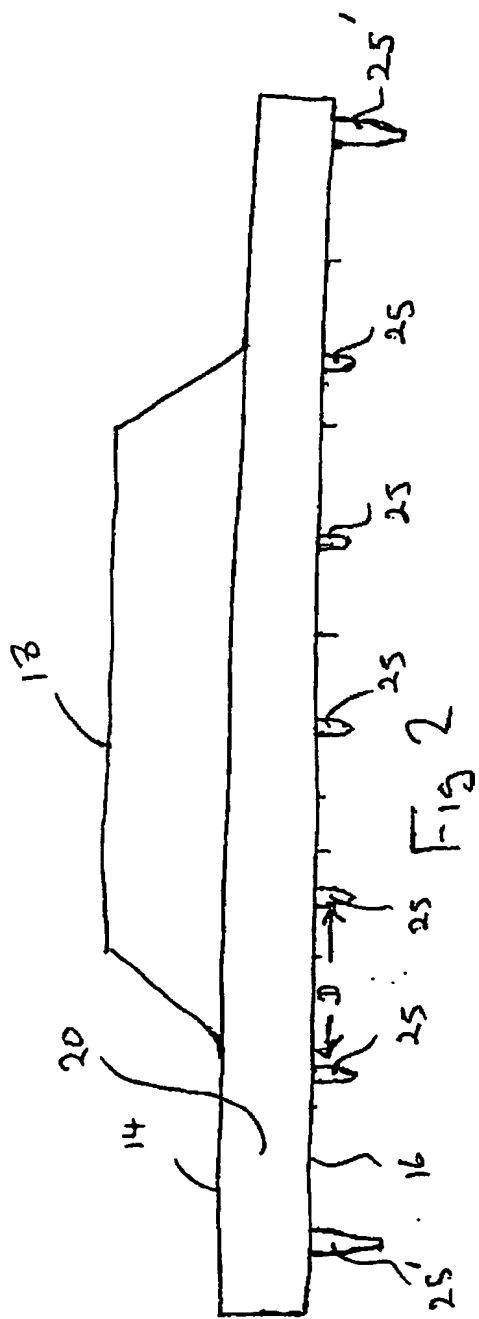


Fig. 1



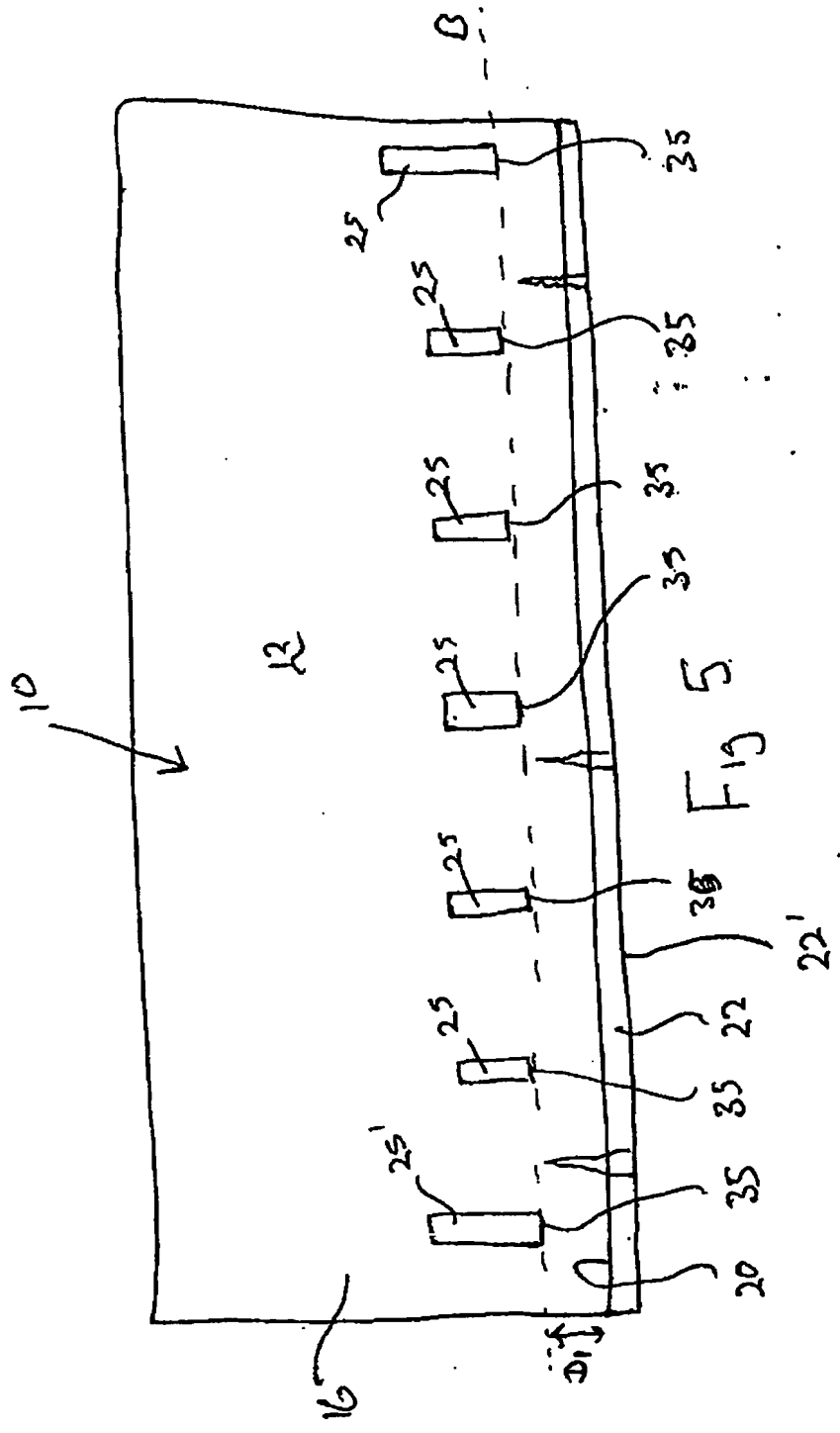
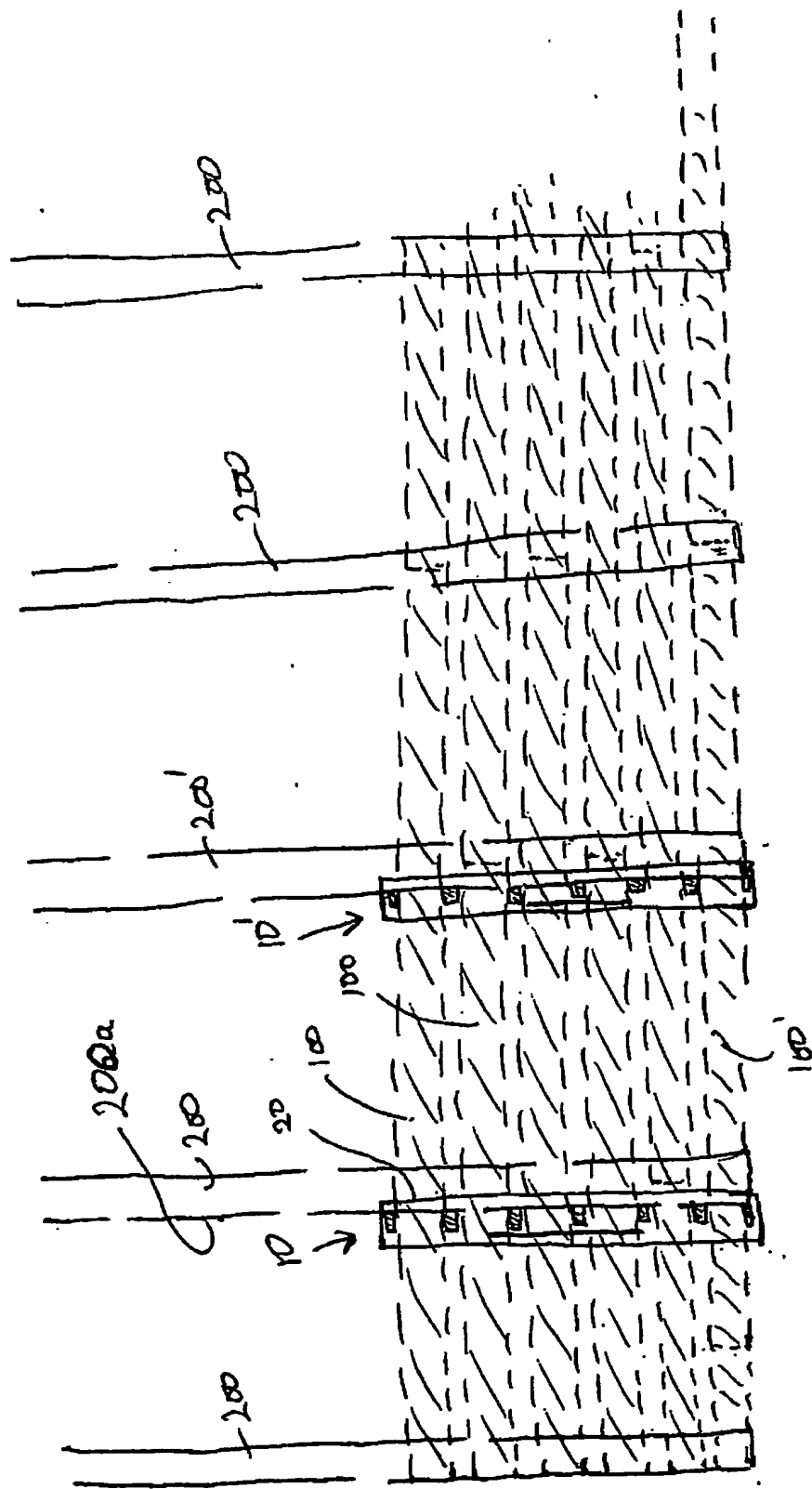


Fig 6



Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/AU04/001528

International filing date: 04 November 2004 (04.11.2004)

Document type: Certified copy of priority document

Document details: Country/Office: AU
Number: 2003906239
Filing date: 13 November 2003 (13.11.2003)

Date of receipt at the International Bureau: 23 November 2004 (23.11.2004)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



World Intellectual Property Organization (WIPO) - Geneva, Switzerland
Organisation Mondiale de la Propriété Intellectuelle (OMPI) - Genève, Suisse

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.